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UNITED STATES HOUSE OF REPRESENTATIVES

HOUSE RESOURCES COMMITTEE

HEARING ON H.R. 39
ARCTIC COASTAL PLAIN DOMESTIC ENERGY SECURITY ACT OF 2003

MARCH 12, 2003

I. Introduction

Good morning Mr. Chairman, Congressman Rahall, and members of the House Resources Committee, my name is Jamie Rappaport Clark and I am here to share the views of the National Wildlife Federation (NWF), the nation's largest conservation education and advocacy organization on the Arctic Coastal Plain Domestic Energy Security Act of 2003 (HR 39).

To your credit, Mr. Chairman, you are having this – the first of what we hope are many hearings on the Arctic National Wildlife Refuge this Congress – so that the facts surrounding this issue may come to light. Unfortunately, at this very moment, there are those contemplating adding an Arctic drilling provision to the FY04 Budget Reconciliation process in order to avoid a full, fair, and open debate; a debate that millions of Americans care passionately about.

Having said that, I do find it regrettable that the Committee would consider mandating oil drilling in our nation's largest, wildest and most pristine Refuge during the very week that our nation celebrates the centennial of the National Wildlife Refuge System.

Prior to arriving at National Wildlife Federation in 2001, I served for 13 years at the U.S. Fish and Wildlife Service (USFWS), with the last four years as the Director of the agency. In that capacity, I was privileged to oversee the refuge system, and came to view its creation and evolution as one of our nation's greatest conservation achievements.

Far from honoring the legacy of President Theodore Roosevelt, who established our America's first refuge on Pelican Island, Florida, HR 39 would tear down the very principles and laws that protect some 540 refuges in every state and U.S. territory.

Instead of putting "wildlife first," as refuges were intended to do, this bill seeks to transform the biological heart of the Arctic Refuge into an industrial complex of roads, pipelines, gravel mines, oil wells and other facilities. Rather than heeding decades of research by the U.S. Fish and Wildlife Service, U.S. Geological Survey, and even last week's report by the National Academy of Science, this bill pays little heed to sound science. Finally, instead of enhancing our energy security, this bill seeks to increase our dependence on oil and, as a result, on the Middle East at a time when our nation should be compelled, as never before, to invest in cleaner, safer, and cheaper alternatives.

In my testimony today, I will focus on the threats HR 39 poses to the entire refuge system, to the unique wilderness and wildlife values of the Arctic Refuge itself and finally to our national energy security.

I. Protecting the Integrity of the National Wildlife Refuge System

On March 14, 2003, our country celebrates the one hundredth anniversary of the National Wildlife Refuge

System. One century ago, with the stroke of a pen, President Theodore Roosevelt inaugurated the national commitment to conservation of wildlife species and the lands they need to survive. Frustrated by the unrestrained plume-hunting that was destroying a spectacular and ancient rookery, Roosevelt declared Florida's Pelican Island the first Federal Bird Reservation.

Thus was born the greatest program of habitat protection in the world, a program that exists today as the National Wildlife Refuge System. Driven to do the "greatest good for the greatest number," and with future generations in mind, Roosevelt eventually issued 51 executive orders creating reserves in 17 states and three territories. He instilled an ethic of conservation in the federal government that has been reinforced and enhanced by congressional Democrats and Republicans alike. First, when Congress formalized the National Wildlife Refuge System in 1966 and more recently in 1997, when this Committee helped craft the system's landmark organic legislation.[1]

The National Wildlife Refuge System Improvement Act requires the Secretary of the Interior maintain the biological integrity, diversity and environmental health of the Refuge System. It also declares conservation of fish and wildlife to be the highest mission of the refuge system; all other uses were prohibited unless the determined to be compatible with the purposes for which a particular refuge was established.

Unfortunately HR 39 breaks the promises of this landmark law, actually waiving, for the first time, the USFWS' compatibility determination. This would set a dangerous precedent that if applied by Congress in other circumstances, could undermine the Interior Department's ability and responsibility to protect all other refuges from a wide range of threats, effectively gutting the heart of the 1997 Act.[2]

Perhaps just as troubling, HR 39 would set yet another precedent, demonstrating willingness on the part of Congress to force open a wildlife refuge to oil drilling. Not since the refuge system was formalized has oil and gas activity been permitted in an existing refuge without pre-existing mineral rights or unless done specifically to prevent drainage from adjacent private lands.[3] In short, if oil drilling is allowed in the Arctic Refuge what's to stop this or a future Congress from allowing drilling in the 298 refuges in 44 states that the U.S. Geological Survey indicates have oil and gas potential?[4]

III. Wilderness and Wildlife Values on the Arctic Refuge

It was no accident that President Dwight Eisenhower first established the Arctic National Wildlife Refuge in 1960. Decades of surveys by scientists in the 1930's, 40's and 50's, identified the northeast corner of Alaska as the finest prospect for a conservation area in the Alaskan Arctic.[5]

Indeed, today's 19.6 million-acre Arctic Refuge protects America's northernmost forest, the highest peaks and glaciers of the Brooks Range, and the rolling tundra, braided rivers, lagoons, and barrier islands along the Beaufort Sea coast. Taken together with adjacent conservation lands in Canada, the Arctic Refuge is part of the largest, protected, pristine area on our continent. No other conservation area in North America safeguards a complete range of arctic and sub-arctic ecosystems. No other, in the entire five-nation circumpolar north, has as abundant or diverse wildlife.

For its part, the Arctic Refuge coastal plain, the Delaware-sized area that would be leased under HR 39, is considered the most biologically productive part of the Refuge, and the heart of its wildlife activity. Referring to the coastal plain, Eisenhower's Secretary of Interior Fred Seaton proclaimed:

For the wilderness explorer, whether primarily a fisherman, hunter, photographer, or mountain climber, certain portions of the Arctic coast and the north slope river valleys, such as the Canning, Hulahula, Okpilak, Aichilik, Kongakut, and Firth, and their great background of lofty mountains, offer a wilderness experience not duplicated elsewhere in our country.[6]

The Reagan Administration's 1987 Arctic National Wildlife Refuge Coastal Plain Resource Assessment Report concluded that the coastal plain "has outstanding wilderness qualities: scenic vistas, varied wildlife, excellent opportunities for solitude, recreational challenges, and scientific and historic values." The Reagan report also determined that, with the exception of two abandoned DEW (Defense Early Warning) line sites along the coast (which have since been removed), the entire coastal plain meets the criteria under the 1964 Wilderness Act.

Even when locked in the frigid grip of winter, the coastal plain is never lifeless. Muskoxen, cloaked in

shaggy wool, restrict their movements to conserve vital energy reserves. Hidden from view, maternal polar bears give birth and nurse their young in the thermal protection of snow dens. Arctic foxes and ptarmigan -- predator and prey – camouflage in winter white coats. Fish like Arctic grayling and Dolly Varden survive in rare pockets of open water beneath the ice covered rivers and lakes.

In late spring, the coastal plain transforms, as do few places on earth. Snowmelt from the Brooks Range flow onto the plain, moistening the spongy tundra as forbs, grasses, and a rainbow of small flowers come to life and the sun hangs in the sky without setting. Caribou have already begun their annual trek northward across the Brooks Range to this place that has served as their central calving and nursery ground for thousands of years. From continents away, flocks of migratory birds are on wing to the coastal plain which, by summer, will be filled with a symphony of bird songs. Arctic foxes, red foxes, grizzly bears, and wolverines will thrive and fatten amid this abundant life before the season begins to change again, the cold returns, and the sun disappears.

There is broad scientific consensus that oil exploration, drilling and associated development activities would dramatically alter this unique landscape and the wildlife that depends on it. The message from the Interior Department's scientists has been clear and consistent that there would be significant negative effects, whether the Reagan Administration's 1002 Report to Congress,[7] the Clinton Administration's 1995 update,[8] or the 12-year summary of wildlife research released by the USGS last year, during the Bush Administration.[9] Arctic Refuge development and production would negatively impact a wide range of wildlife species, fundamentally alter wildlife habitat and natural ecological processes, harm subsistence uses and cultural values, and undermine the Refuge's wilderness values. The National Academy of Sciences, which released its 465-page report on the "Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope" last week, largely affirmed these findings.[10] It reported that the land, plants, animals, and culture of the North Slope and adjacent marine areas have been significantly and negatively affected by oil infrastructure and activities.

Notably, the NAS report makes clear that industrial activity has transformed 1,000 square miles of the North Slope, with many important effects on animals and vegetation extending well beyond this already sizable "footprint" of development. The NAS finds that:

Roads, pads, pipelines, seismic-vehicle tracks, and transmission lines; air, ground, and vessel traffic; drilling activities; landfills, housing, processing facilities, and other industrial infrastructure have reduced opportunities for solitude and have compromised wildland and scenic values over large areas… The structures and activities also violate the spirit of the land, a value that is reported by some Alaska Natives to be central to their culture. Given that most of the affected areas are not likely to be rehabilitated or restored to their original condition, these effects will persist long after industrial activity has ceased on the North Slope.[11]

The NAS said, "Animals have been affected by industrial activities on the North Slope. Bowhead whales have been displaced in their fall migration by the noise of seismic exploration… Some denning polar bears have been disturbed."[12] The threats to Inupiaq culture and subsistence activities are real, long-term and continuing, including reductions in harvest areas in and around oil fields. The actual and perceived risks to Gwich'in culture are widespread, intense, and they constitute a cumulative effect.

The Arctic Refuge coastal plain remains our best hope for keeping at least 5% of Alaska's North Slope intact, for the wildlife and the people who depend upon it. Unfortunately, 95% of this remarkable landscape lacks statutory protection from oil exploration and development and is subject to the wide-ranging cumulative impacts highlighted by NAS.

IV. The Porcupine Caribou Herd

The signature wildlife population of the Arctic Refuge's coastal plain is the Porcupine caribou herd. Over a dozen Native American villages in two nations depend on these animals for subsistence and cultural identity. Two national parks, a territorial park, an ecological preserve, and a large special management area in Canada, along with the Arctic National Wildlife Refuge as a whole, comprise the habitat for the largest internationally shared caribou herd in the world. Of the numerous wildlife species that use the coastal plain, caribou are not only the best known, but also one of the species most likely to suffer major disruptions from oil development. Because this herd functions as a keystone species which migrates throughout northeast Alaska and northwest Canada, negative impacts from development will have ecological consequences well beyond the coastal plain.

The 123,000-strong Porcupine caribou herd takes its name from its winter range in the valleys and tributaries of the Porcupine River. But it is the herd's recurrent use of a specific calving area--principally the Arctic Refuge coastal plain--which defines it as a separate population. The Porcupine herd and post-calving area covers most of the Arctic Refuge coastal plain, the exact landscape where oil development would occur, and extends eastward into the Yukon Territory. Calving grounds of the much smaller Central Arctic herd, currently numbering about 31,000 overlap the northwestern corner of the Refuge coastal plain and extend westward to Alaska's North Slope oil fields.

Although Porcupine herd calving extends far east into Canada, the Refuge coastal plain offers the most extensive stretch of land in which predators are scarce and highly nutritious forage is found. Consequently, calving activity is highly concentrated on the coastal plain, where calves grow rapidly and have the best survival. The evolutionary advantage of calving on the coastal plain is deeply ingrained. Pregnant cows often move 20 or more miles per day until they calve. Cows that give birth on the coastal plain have already traversed other potential calving sites, and they remain on the coastal plain until their calves are born. In contrast, cows that calve farther south or east continue moving as soon as their offspring are strong enough to travel so that they too might escape predation and obtain better forage afforded by the Refuge coastal plain.

No other portion of the calving grounds is used as frequently or by such high densities of caribou as the coastal plain of the Arctic Refuge:

· The coastal plain supports more than 250 pregnant cows per square mile--five to ten times the density of pregnant cows on the rest of the calving area;

· On average, about half of Porcupine herd births are concentrated in 10 percent of the overall calving area. The location of calving concentration areas varies from year to year, but annual concentration areas overlapped the coastal plain in 25 of the past 30 years;

· During the past 19 years for which there is detailed information from radio collared caribou, concentrated calving occurred primarily on the coastal plain 11 times. In four additional years, the majority of concentrated calving was immediately adjacent to the coastal plain, and within a few days most cows and calves had moved onto the plain;

· Only unusually late snowmelt keeps the Porcupine caribou herd from calving on the coastal plain;

· Up to 92 percent of calves are born on the coastal plain, and the annual average is 43 percent.

By late June and early July, cows that gave birth on the coastal plain have long since been joined by cows that calved farther south and east. Essentially all cows and calves and many bulls of the herd--in excess of one hundred thousand caribou--are on the coastal plain. Huge numbers of caribou then coalesce into dense aggregations of thousands or tens of thousands of animals that move constantly in response to winds, insects, and forage availability. Almost every section of the coastal plain is covered at one time or another by the vast swarms of caribou.

When the caribou leave the coastal plain, they travel near or through more than a dozen Gwich'in and Inuvialuit communities in Alaska and Canada; these communities rely on caribou and other wild meat for up to 80% of their diet.

Effects of Oil Exploration and Development on Caribou

The likelihood of coastal plain development having adverse effects on the Porcupine herd is often discounted by oil drilling proponents through comparisons with other areas where development is already taking place and caribou numbers have increased. However, conditions on the Arctic Refuge coastal plain differ from currently developed areas on State of Alaska lands west of the Refuge, making comparisons of the two largely inappropriate.

The coastal plain around the oil fields is more than 100 miles wide. It is used by relatively few caribou. Oil development that has been underway for many years has resulted in the displacement of Central Arctic caribou to other nearby habitat. In contrast, the narrow Arctic Refuge coastal plain is densely occupied by caribou and is bracketed by sea on one side and mountains on the other. Porcupine herd caribou displaced by oil development would not find other comparable habitat readily available.

The Arctic Refuge environmental assessment written in 1987 concluded that oil development would have a “major” impact on the Porcupine caribou herd, defined as “widespread, long-term change in habitat availability or quality which would likely modify natural abundance or distribution” of the species. While the technology has improved, there is little question that the disturbance caused by the presence of drilling pads, pipelines, and facilities would displace the Porcupine caribou herd from their preferred calving habitat on the coastal plain, just as it has with the Central Arctic herd near the Prudhoe Bay oilfields. Furthermore, recent findings by DOI researchers published in 2002, documented that entire areas of calving concentration have shifted away from oilfield developments during the past 15 years. Findings of the National Academy of Science released last week show that during 1988 to 2001, Central Arctic herd cows that were displaced by oilfield developments had significantly lower reproductive success than in areas where they were not disturbed.

The survival rate of Porcupine herd calves has averaged 14 percent lower in years when late snowmelt has displaced calving from the coastal plain to areas with poorer forage and more predators. A reduction of long-term calf production and survival of as little as five percent would be sufficient to prevent population growth in the Porcupine caribou herd. If the average survival rate falls by more than five percent--a distinct possibility if oil development occurs--the herd would be unable to recover from natural declines. The Porcupine herd has shown the lowest growth capacity of the arctic herds in Alaska, and therefore is the least resilient to the impacts of development.

V. Polar Bears

The coastal plain of the Arctic National Wildlife Refuge is the most heavily used land denning area for polar bears along the entire North Slope of Alaska and provides the only denning habitat for polar bears in the conservation lands of the United States. Although the coastal plain covers only about 10 percent of the coastline of the Beaufort Sea in northeastern Alaska and adjacent Canada, it accounted for 42 percent of the mainland den sites of radio collared bears between 1981 and 2000.

Polar bears are creatures of the sea ice, where they feed almost exclusively on marine mammals. While most polar bears remain active and hunt for food all winter long, pregnant females excavate dens in snowdrifts during early winter, where they give birth and remain until late winter when the young cubs have grown enough to travel with their mothers. Throughout most of the polar bear’s circumpolar range, denning occurs almost exclusively on land, but bears inhabiting the Beaufort Sea off the coastal plain of the Arctic Refuge den both onshore and on the pack ice.

The ability to successfully den on land is important because denning on ice carries certain risks. Ocean currents keep the pack ice constantly moving, even during winter. Female bears that go into dens in October or November in one location may emerge hundreds of miles away in March or April. Ice conditions can change as the dens drift along, forcing bears to abandon their dens and lose their cubs. Dens on land or on shore-fast ice are more stable. In the early 1980's, when surveys of radio collared bears in the Beaufort Sea first began, dens were fairly evenly split between land and pack ice. More recently, radio collared bears in the Beaufort Sea have tended to den more frequently on land, possibly because steadily warming winter temperatures are causing the ice pack to form later and remain thinner, making it a less attractive substrate for denning.

Polar bears also use the Refuge coast during the fall for feeding, resting, and moving about. Like the trend towards more land denning, use of the coastal plain during the fall has also been increasing in recent years. Some stretches of the Refuge coast have had up to one bear per mile of shoreline. Concentrations of up to two dozen bears regularly scavenge carcasses from fall whaling near Kaktovik, a Native village just outside the officially designated Refuge coastal plain. Numbers and densities of bears using the Refuge are greater than in areas where oil development already occurs farther to the west, and in the coming years the undisturbed habitat of the Refuge coastal plain is expected to be even more important to the Beaufort Sea polar bear population.

Effects of Oil Exploration and Development on Polar Bears

Polar bears are highly vulnerable to disturbances from human activity. The exploration activities that would precede any oil development would create exactly the kind of disturbance that could adversely affect the bears that rely on the coastal plain.

Modern petroleum exploration employs fleets of large vehicles that crisscross the frozen tundra, following a

predetermined grid pattern. At frequent intervals, equipment on specially designed and extremely heavy vehicles is used to send shock waves through the ground so that monitoring devices can detect echoes that pinpoint underground oil and gas reserves. Noise from vehicles and seismic vibrations passing too closely can disturb denning polar bears, causing den abandonment and loss of cubs. Modern 3-D seismic exploration now uses grid lines that are often no more than 300 to 400 yards apart.

Standard mitigation practice is to avoid conflicts with bears by prohibiting overland vehicle traffic, seismic testing, and other heavy equipment usage within one mile of known dens between October 30 and April 15. However, this mitigation technique is severely limited by the fact that some 95 percent of Beaufort Sea polar bears are not radio collared, and their locations cannot be known in advance. While the use of infra-red detection systems (which are currently being tested) may offer some potential for finding polar bear dens, the trend toward warmer winters in the arctic may render this technique useless as it relies on a sharp contrast between the relative warm signature of a den and the cold outside air. It is virtually certain that 3-D seismic exploration on the coastal plain would pass close to undetected dens within the seismic grid areas, resulting in disturbance, den abandonment, and cub mortality.

Oil exploration and development in the Refuge's coastal plain would also lead to more frequent direct encounters with humans and exposure to environmental contaminants, increasing the threat to polar bears. Polar bears are large, powerful predators and can be dangerous to people. Direct encounters with bears can be generally mitigated through camp and personnel management and proper control of human generated garbage. However, some killing of problem bears is inevitable. The International Polar Bear Specialist Group has identified environmental contaminants as a significant threat to polar bears. Chronic release of contaminants from petroleum exploration, production, and support activities has been a problem in existing oil fields on the North Slope, and at least one polar bear has died from ingesting a toxic substance.

The United States is a party, along with other circumpolar nations, to the Agreement on Conservation of Polar Bears, which requires appropriate action to protect ecosystems which contain polar bears, and places special emphasis on protecting denning habitat. This agreement also specifies that polar bears may be taken (hunted, killed, or captured) only for certain purposes. These purposes do not include displacing cubs to conduct seismic tests or killing bears to resolve conflicts with humans. Development of the coastal plain would make it difficult, if not impossible, for the United States to fully comply with its obligations under this international agreement.

VI. Muskoxen

Muskoxen are both new and old to the Arctic Refuge. Native muskoxen in Alaska died out near the end of the 19th century. Some of the last records of native muskoxen were from isolated inland areas of the Arctic Refuge. Centuries of steady exploitation by aboriginal hunters, accelerated by the introduction of modern firearms, doomed the muskoxen. Only a few scattered skulls lying on the tundra mark their passage.

Sixty-four muskoxen were reintroduced to the Refuge in 1969 and 1970. The transplanted population increased slowly at first, then underwent a period of rapid growth and range expansion. Numbers on the coastal plain reached a peak of 368 by 1986. Muskoxen now occupy all the major drainage systems on the coastal plain, and in summer they can be found anywhere throughout the plain. Muskoxen from the coastal plain have spread far to the east in Canada and west beyond Prudhoe Bay. The total population resulting from Arctic Refuge transplants now numbers about 500 muskoxen.

During the 1990's musk ox in the Refuge declined gradually due to emigration to new areas, as well as from reduced productivity and increased mortality as the population came into equilibrium with its resources. There has been a recent sharp decline in numbers following winters with deep snow (2000 and 2001) which were coincidental with increased predation by grizzly bears. It is currently estimated that there are no more than about 100 musk ox in the Refuge. It is imperative that maximum protection be given to the Refuge musk ox at this time.

Effects of Oil Exploration and Development on Muskoxen

As year-long coastal plain residents, the muskoxen's natural cycle of conserving energy in winter while moving freely to maximize food intake in summer makes it particularly sensitive to disturbance from human activities. Of particular concern is that female musk ox give birth at least four to six weeks before there is green forage available to assist with milk production for their young. Therefore it is imperative that they be able to conserve their body reserves (fat) throughout the winter to support this critical demand.

Petroleum exploration and construction typically occurs in winter, when muskoxen are most vulnerable due to limited habitat. Disturbance during winter can drive muskoxen into lower quality habitats, increase energy consumption and ultimately reduce productivity and survival of young. This is especially true during the late winter months of April and May, when muskoxen are in the poorest physical condition and are raising newborn calves.

VII. Birds and Other Wildlife

Although we have focused on three of the most prominent species, scores of other species from golden eagles to diminutive lemmings and voles to fierce grizzly bears are also part of the wildlife mosaic that makes up the Arctic Refuge's coastal plain.

Although birds are rare on the coastal plain during the winter, by mid-April millions of migratory birds begin their return to the coastal plain. First to come back are huge flocks of ptarmigan streaming down from their main wintering areas in the Brooks range and taiga forests even farther south. Snow buntings show up soon after, followed in May and June by geese, ducks, swans, cranes, loons, raptors, gulls and jaegers, countless shorebirds, and multitudes of songbirds.

Some 180 bird species have been recorded in the Arctic Refuge, including 135 on the coastal plain, of which 70 are regular nesters. Birds come from all 50 states, Mexico, Central and South America, the mid- and South Pacific Islands, Asia, and even Africa and Antarctica. The convergence of all this winged wildlife onto the Arctic Refuge coastal plain every year gives this landscape one of its most special characteristics. Among all the conservation lands in the United States, the Arctic Refuge coastal plain is unequaled by all but a handful of protected landscapes as a critical migratory destination for wildlife.

Wolves and grizzly bears are two of the larger predators seen on the Arctic Refuge coastal plain. One hundred or more grizzlies can always be found on the coastal plain in summer, as far north as the Arctic coast. Arctic foxes are common on the coastal plain, especially near the arctic shoreline, and red foxes occur widely farther inland. Fox populations, particularly those of the arctic fox, fluctuate widely in response to cyclical irruptions of lemmings and other small rodents.

Bowhead and beluga whales and ringed, bearded, and spotted seals are regularly found in the Beaufort Sea off the coast of the Arctic Refuge. Other marine mammal species such as gray and killer whales, harbor porpoises, and walrus use the area less frequently. The common marine species, especially bowhead whales, are important in the local and regional subsistence economy.

Effects of Oil Exploration and Development

Construction and operation of a complex of oil fields in the Refuge coastal plain would directly destroy bird habitat, and the interconnected maze of small fields envisioned for the coastal plain would also fragment habitat, making much larger areas more difficult for birds to use. Additional habitat would be degraded by noise, general disturbance, and spread of pollutants from industrial activity.

The mountains of the Brooks Range confine the arctic tundra of the Refuge coastal plain into a narrower band than occurs elsewhere across the North Slope of Alaska. The narrow coastal plain, already densely populated by birds, offers few suitable alternative areas for birds displaced by development. Recent findings reported by the National Academy of Science indicate that due to increased populations of ravens, gulls and foxes that are attracted to human food and garbage in north slope oilfields, predation on some species of tundra nesting birds has significantly increased, making habitats near oil fields "sink populations" as other birds immigrate in from source areas. The NAS predicts that as more source areas (such as the Arctic Refuge) are developed, some bird populations may decline suddenly.

Grizzly bears have also been impacted by garbage in and around the oil fields. As stark evidence of this the NAS points out that out of 12 offspring weaned by four food-conditioned female grizzly bears, seven were killed, (defense of life and property) and the status of two others remains unknown.[13]

Pollution, too, is an inevitable by-product of oil development. As top predators, marine mammals are also threatened by chronic releases of contaminants into the environment. Contaminants are already a serious problem in the Arctic Ocean food chain. The problem would only be exacerbated by oil production along the coastal plain.

Of course, the routine problems associated with oil development would be dramatically worse in the event of a significant oil spill. If a major spill were to enter the marine environment, frequent and persistent ice cover would hamper clean up operations, and cold water temperatures would slow the breakdown and dispersal of toxic petroleum products. If a large spill were to escape into a major river, it could reach coastal lagoons were it could have catastrophic effects on tens of thousands of long-tailed (old squaw) ducks, king eiders, loons, and shorebirds.

VIII. Seismic Exploration Would Scar Tundra Landscape

During the assessment of oil and gas potential on the Refuge coastal plain which was mandated by Section 1002 of ANILCA, about 1,400 miles of two dimensional (2D) seismic lines were surveyed (1983-85) to collect geophysical information used in the analysis. This work involved the use of bulldozer equipment moving worker camps, heavy seismic vibrators and related materials across the tundra during winter conditions when the ground is frozen and covered with snow. Due to the close proximity of the Brooks Range mountains to the Arctic Ocean in the Refuge, the coastal plain is primarily made up of rolling, hilly terrain which characteristically has uneven snow cover due to redistribution of snow by strong prevailing winds. Consequently, in areas having light snow cover the tundra vegetation was damaged by equipment, which created a variety of trails and visual impacts. Many of the damaged sites were such that significant recovery of vegetation has occurred and appear healed. At other locations, however, the damage persists, and in some cases has further eroded as water drains from sloped terrain in the scars. Damage at such places may last for many decades to come.

Current state-of-the-art seismic surveys called three-dimensional (3D) require a high spatial density of survey lines (about 300-400 yard spacing). Such surveys create significantly more trails and tundra damage than the older 2D method, because of the increased number of lines, and the amount of vehicle turning that is required at the end of each line (turning of tracked vehicles tends to damage tundra vegetation more that straight travel). The NAS report warns that if exploration intensifies in the foothills terrain (like the coastal plain of the Arctic Refuge) the likelihood for increased impact to vegetation, soil erosion and visual values will be significantly greater. In the Arctic Refuge such impacts would destroy the wilderness qualities of the coastal plain, and would diminish visual aesthetics of the plain as seen from higher elevations in the designated Wilderness area to the south.

IX. Water Issues Associated with Oil Development

Proponents for drilling in the Arctic Refuge often claim that impacts can be drastically reduced by the use of ice roads and exploratory drilling pads as is often done in the North Slope oil fields west of the Refuge. What they fail to acknowledge is the fact that there is very little water available for such purposes during the winter in the Refuge. Nearly all rivers and streams in the Refuge freeze to the bottom during the winter, and the few open water areas are critical fish over wintering areas where water cannot be withdrawn without causing impacts. Most of the coastal plain is made up of rolling upland terrain where water readily drains off to the Beaufort Sea, leaving few lakes and ponds. In contrast, to the west where oil development has taken place, there are extensive low flat plains with dense accumulations of lakes and ponds. Overall there is about one-tenth as much water during summer in the Arctic Refuge coastal plain than in the area of existing oil development. Further complicating the matter is that in the Refuge the distribution of lakes and ponds is not even; most water is located in river deltas near the coast and very little is found inland. This makes it impractical to use ice roads and ice drill pads over most of the Refuge coastal plain.

The lack of water during winter for industrial purposes in the Arctic Refuge would likely require more use of gravel for roads and drill pads for exploration. This will create greater impacts, including those from gravel mining operations, which will result in lasting transformations of the landscape. The recently released report by the National Academy of Science identified additional effects of oil field roads such as: dust affecting vegetation, roadside flooding, melting of permafrost. As a result, even if there were no commercial oil found in the Refuge, the effects of the exploration alone would result in a high degree of habitat alteration, and an irretrievable loss of wilderness values.

Of course, it may not even be possible to construct ice roads in the future, for reasons other than the lack of water on the coastal plain. The NAS warns that global warming could “reduce the usefulness of ice roads and pads or of some off-road technologies. In fact, global warming has already shortened the off-road tundra season by 70 days since the 1970’s.[14]

X. Drilling the Arctic Refuge Would Weaken U.S. Energy Security.

The United States has less than 3% of the world's oil reserves, yet consumes more than 25%. As a result, we could drill every national park, wildlife refuge, and coastline and still be largely dependent on imports. It's worth noting that the Energy Information Administration projects that a major oil discovery in the Arctic Refuge would reduce foreign oil dependence by a mere two percent in 2020, when the area might reach peak production.[15]

The EIA also projects that in 2020 Alaska will be producing 27 percent more oil than it pumps today, even without drilling the Arctic Refuge. This forecast does not include the billions of barrels of heavy oil already known to exist on the North Slope. Nor does it include the 35 trillion cubic feet of known natural gas reserves available at Prudhoe Bay. These reserves dwarf Arctic Refuge gas potential, which are estimated by USGS to be seven trillion cubic feet.

Still, the only true path to domestic energy security is to dramatically reduce our dependence on oil as a resource. Raising fuel economy standards for new family vehicles to an average of 40 miles per gallon over the next decade would save many times more oil by the year 2020 than could be produced from the Arctic National Wildlife Refuge, with additional oil savings in the years beyond.

As Congress develops a comprehensive energy policy, it faces a fundamental choice. Congress can either provide new leadership to challenge United States industry to innovate and develop better, cleaner, and more efficient technologies. Or it can remain mired in the failed energy policies of the past, leading to ever-increasing dependency on polluting fuels and foreign energy sources. It's a choice between an energy policy that drives environmental progress, and one that further jeopardizes public health, weakens our energy security and despoils one of the nation's last great wilderness areas.

XI. Deficiencies of HR 39

HR 39 asserts up front that a coastal plain leasing program will be "environmentally sound" and "will result in no significant adverse effect on fish and wildlife, their habitat, subsistence resources and the environment." Yet its specific provisions fail to ensure that these lofty goals are met.

As an initial matter, HR 39 is remarkable for what it does not do to protect the Refuge. The bill fails to ban the use of water from the braided rivers, ponds, and lakes of the coastal plain. It does not prohibit the construction of permanent gravel roads, either within individual fields or to connect separate ones. As a result, millions of cubic feet of gravel could be dredged from riverbeds for construction.

HR 39 also exempts leasing regulations from analysis under the landmark precautionary environmental law of our nation – the National Environmental Policy Act. The bill declares that a 16-year-old analysis is sufficient for NEPA purposes. The fallacy of this provision is revealed by other provisions of the proposed legislation, which require, for example, that the Secretary "prescribe such regulations as may be necessary" to protect fish and wildlife, their habitat, subsistence resources, and the environment of the Coastal Plain. See Section 3(g)(1).

Additionally, the bill only allows the Secretary of the Interior to designate 45,000 acres of "Special Areas" in the Coastal Plain, an insignificant amount given the important calving, denning, and nesting habitat found throughout the 1.5 million-acre area. Furthermore, HR 39 does nothing to prohibit or limit intrusive seismic exploration of Special Areas.

HR 39 also gives the Secretary the discretion to allow year round drilling of the coastal plain, rather than simply directing the Secretary to ban exploratory and development activities during critical denning, calving, and nesting periods for migratory or resident wildlife populations.

The bill also includes a variety of other provisions designed to limit meaningful public participation in a leasing program and to expedite oil development. Virtually all of the protective measures in the bill are at the complete discretion of the Secretary of Interior, rendering them largely meaningless.

XII. Summary

In a very real sense, drilling for oil on the coastal plain would be an ill-conceived experiment performed on the biological heart of the Arctic National Wildlife Refuge.

We know what some of the consequences would be. Exploration and drilling cannot proceed without

permanently sacrificing the coastal plain's wilderness character. It is also certain that oil exploration would take a toll on many individual wildlife populations that rely on the Refuge and would be incompatible with the unique wildlife, wilderness, and recreational values for which the Refuge was established. Beyond these predictable outcomes, the cumulative damage cannot be completely foretold. However, previous experience suggests it would far exceed the toll that has been outlined here.

The Arctic National Wildlife Refuge is held in trust for current and future generations as a vital part of our National Wildlife Refuge System. Our elected officials made a promise to the American people over 40 years ago to protect the Refuge's wildlife and wilderness values. The National Wildlife Federation urges this Committee to live up to that promise and to reject HR 39 in favor of cleaner, safer, and cheaper energy alternatives that can enhance our national security while protecting the Arctic Refuge and other national treasures for future generations.

Thank you.

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[1] 16USC668dd. National Wildlife Refuge Administration Act, as amended by Public Law 105-57.

[2] The purposes of the Arctic Refuge were first set forth in the Eisenhower Administration's Public Land Order 2214, which include "preserving unique wildlife, wilderness and recreational values." They were expanded in the Alaska National Interest Lands Conservation Act (ANILCA) of 1980 to:

(i) conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd, polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling;

(ii) fulfill the international fish and wildlife treaty obligations of the United States;

(iii) provide the opportunity for continued subsistence uses by local residents; and

(iv) ensure water quality and necessary water quantity within the Refuge.

[3] United States General Accounting Office, U.S. Fish and Wildlife Service: Information on Oil and Gas Activities in the National Wildlife Refuge System 3-5 (2001).

[4] Defenders of Wildlife analysis of 1995 U.S. Geological Survey, National Assessment of U.S. Oil and Gas Resources, 2001.

[5] National Park Service and U.S. Fish and Wildlife Service officials Collins, Sumner, and Rhode, see discussion in Midnight Wilderness, Debbie Miller, 1990, Sierra Club Books, pages 165-66.

[6] Fred A. Seaton to Hon. Sam Rayburn, April 30, 1959, transmitting draft legislation to authorize the establishment of the Arctic Wildlife Range, Alaska.

[7] Clough, N.K., P.C. Patton, and A.C. Christiansen, eds. 1987. Arctic National Wildlife Refuge, Alaska coastal plain resource sassessment – Report and recommendation to the Congress of the United States and final legislative environmental impact statement: Washington, D.C. U.S. Fish and Wildlife Service, U.S. Geological Survey, and Bureau of Land Management. 208 pp.

[8] U.S. Fish and Wildlife Service. 1995. A preliminary review of the Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment: Report and Recommendation to the Congress of the United States and Final Legislative Environmental Impact Statement. Anchorage.

[9] Douglas, D.C., P.E. Reynolds, and E.B. Rhode, editors. 2002. Arctic Refuge coastal plain terrestrial wildlife research summaries. U.S. Geological Survey, Biological Resources Division, Biological Science Report USGS/BRD/BSR-2002-0001.

[10] National Research Council of the National Academies, Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope, March 2003.

[11] NAS Report, p. 252.

[12] NAS Report, p. 14

[13] NAS Report, P. 191

[14] NAS Report, p. 91 & 141

[15] Energy Information Administration, The Effects of the Alaska Oil and Natural Gas Provisions of HR 4 and S. 1766 on U.S. Markets, February 2002.